

Amendments to the Claims

Please amend the claims as follows:

1. (Currently Amended) A method of producing a stabilized amorphous silicon film, comprising the steps of:

(a) providing an amorphous silicon film deposited on to a substrate, the film having an exposed surface;

(b) illuminating the film with an essentially blue or ultraviolet light to form a light damaged region and a stabilized region resistant to metastable degradation; and

(c) etching the light damaged region to expose a portion of the stabilized region resistant to metastable degradation.

2. (Previously Amended) The method of claim 1 further comprising using the amorphous silicon film in an electronic, optoelectronic, or photovoltaic device.

3. (Previously Amended) The method of claim 1 wherein the light damaged region extends 700-10,000Å below the film surface.

4. (Previously Amended) The method of claim 1 wherein etching comprises using a liquid etchant to remove 500 – 10,000Å of the silicon film.

5. (Previously Amended) The method of claim 1 wherein etching comprises using a reactive hydrogen in a plasma or chemical vapor deposition reactor to remove 500-10,000Å of the silicon film.

6. (Previously Amended) The method of claim 1 further comprising repeating the steps of illuminating and etching for a plurality of cycles.

7. (Cancelled)

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~~8.~~ (Previously Amended) An amorphous silicon film produced according to the method of claim 1.

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~~9.~~ (Previously Amended) An amorphous silicon film produced according to the method of claim 3.

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~~10.~~ (Previously Amended) An amorphous silicon film produced according to the method of claim 6.

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~~11.~~ (Previously Amended) The method of claim 1 wherein providing, illuminating, and etching are performed as steps in an amorphous silicon film deposition process.

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~~12.~~ (Previously Amended) The method of claim 3 wherein providing, illuminating, and etching are performed as steps in an amorphous silicon film deposition process.

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~~13.~~ (Previously Amended) The method of claim 6 wherein providing, illuminating, and etching are performed as steps in an amorphous silicon film deposition process.

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~~14.~~ (Previously Amended) The method of claim 1 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

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~~15~~ (Previously Amended) The method of claim 3 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

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~~16~~ (Previously Amended) The method of claim 6 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

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~~17~~ (Previously Amended) The method of claim ⁸~~9~~ wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

b) ¹⁷
~~18~~ (Previously Added) The method of claim 1 wherein etching comprises using a liquid etchant to remove about 700Å of the silicon film.

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~~19~~ (Previously Added) The method of claim 1 wherein etching comprises using a reactive hydrogen in a plasma or chemical vapor deposition reactor to remove about 700Å of the silicon film.
